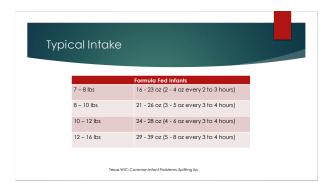


R	asic Formula Assessment
٦	asic 1 0111101a / 650551110111
-	
•	Listen to their story
•	What kind of formula? Any others? When & how long?
•	How much, how often?
•	Formula prep
	► How many oz water with how many scoops?
	► Prepared ahead and stored How long at room temp? Leftovers saved?
	► Shaken or stirred Warmed
•	How many wet & dirty diapers?
•	Last weight check- when & how much?
•	Breastfeeding history
•	What are client's concerns?
	► Ask more questions based on concerns



Weight Go	airi	
Baby's Age	Average Weight Gain WHO	Average Weight Gain Riordan & Mohrbacher
0-4 months	5.5 – 8.5 oz per week	5-7 oz per week
4-6 months	3.25 – 4.5 oz per week	4-5 oz per week
6-12 months	1.75 – 2.75 oz per week	2-4 oz per week

Stool Color	
Baby poop changes color and is often a cor Color has not much to do with myrhing ex- and the bite coming through the Giff tect. Poop color timeline: Yetlowmens mikis moving through the buby. When the process idows down, poop become Fernálowmens poop bus town Colors of concern While- can indicate an infection or problem: Black- sign of digested blood in Giff tect. Resi-indicate ferse blood (film colon or reck). Cocasionally green, mucus-like poop can be	sept the framilit time of food (in the baby's system) 's system_alciby. sgreen with blie
Dr. Barry Steinmetz, MD, pediatric gastroenterologist, Miller Ch http://www.webmd.com/parenting/boby/teatures/truth-abo	



Common Concerns		
Spitting up GER vs GERD Cyring/fusiness Gassy Crying/colic Constipation Diarrhea Food allergy	Many common concerns lead parents to request a formula change when it is often unnecessary	

Formula vs Maturation

When parents initiate a formula change when symptoms are benign and reflective of normal physiologic development, they may attribute the infant's improvement to the formula change when it is more likely a result of physiologic maturation.

Q	ualifying Conditions	
Category		NO
Infants Policy 235.55	Pementure birth Low birth weight Fallue bir hive specific by underlying medical condition Fallue birthine specific birthine birthine specific birthine speci	No-specific formula or food inholence. Diagnosed formula inholence or food deller to milk protein or say protein that does not respice used a special formula or special formula or special formula or feeding problems in newborns. Feeding disclade and minanagement fleeding disclade and minanagement flowlunce, grasiness, fusivers and gas poin Diagnose. Abdominato plan - colic. Personal protein ence. Spitting lip.

Qυ	alifying Conditions	
egory	YES- Qualifying Conditions	NO
Children Policy 235.50	Permotive birth Los birth weight Los bi	Food infolerance to lackuse or milk protein that can be successfully managed with the scale of the suppose of enhancing nutrier intoke. Solely for the purpose of enhancing nutrier intoke. Solely for the purpose of managing body condition. Nonpecific symptoms such as intolerance fusioned, surpline condition. Nonpecific symptoms such as intolerance fusioned, surpline proteins are supported by the suppose of the suppose

Spitting up What is common Half of 0-3 month old babies spit up at least once a day Spitting up usually peaks by 2-4 months of age Most infants outgrow spitting up by the time they are sitting up or by 1 year Growth is usually normal and the spitting up is more of a nuisance than a concern Laundry problem not a formula problem Men teething, babies tend to drool more and can swallow extra saliva resulting in spitting up If baby has adequate wet/dirty diapers and is growing well- not a concern

Prevalence of Regurgitation in Infancy To the state of t

Spitting Up More questions to ask			
Volume Now much is offered at each feeding? How much is baby spitting up? How big is wet spot? How aften? When? Mixing of formula Are too many air bubbles going in? Nipple Is the ripple opening too large resulting in a large volume going in?	Positioning Is boby being jostled during feeding? Is boby being laid down right after a feeding? Is bother fisped so boby is gulping air? Illness Is boby coming down with a cold or reparatory illness Teathing Is the boby drooling more?		

Spitting up Information to offer Deformation to offer Cifer smaller, more frequent feedings Do not overfeed Feed in arms, avoid car seats Make feedings caim and relaxed Stop often to burp Keep infant upright after feeding Avoid putting in a car seat position or bouncy, vibrating baby chair Sit formula, cather than shake Avoid smaking around baby Formula to offer: SIMILAC ADVANCE

Spitting up When to refer • Refer to health care provider if spitting up does not resolve and baby shows signs of: • Coughing • Gaggling • Arching backwards • Having trouble breathing • Growth faltering • Projectile varilling more than 1x/day

GER vs GERD – to D or not to D

- GER- gastroesophageal reflux is physiological and not harmful
 Passage of gastric contents into esophagus; after a meal
 Occurs with/without regurgitation and vomiting

 - Several times a day occurs in 50% infants < 3months of age and often peaks at 4months of age with increased vertical positioning and movement.

 - ventical positioning and inventioning.

 Episodes * Smirnules

 Occur during transient relaxations of the lower esophageal sphincter (LES): decreased with age as sphincter tone increase.
- ► GER becomes more serious GERD if the infant won't eat, stops gaining wt, vomits blood and is extremely irritable.
 - Insufficient clearance and buffering of refluxate, decreased rate of gastric emptying, development of erosive esophagitis, esophageal shortening.

GER vs GERD – to D or not to D

- ▶ Ideas for 'happy spitters'
 - avoid overfeeding
 - ▶ offer smaller amounts
 - help baby slow down
 - ▶ feed one ounce less than normal
 - ▶ keep upright 30 mins after feeds, burp more
 - ▶ avoid fight diapers or waistbands
 - ▶ avoid exposure to second-hand smoke.

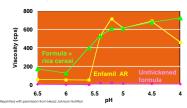
Similac for Spit Up

- ▶ "Antireflux formulas reduce daily emesis and regurgitation in infants, but have not been shown to improve growth or development"
 - O'Conner, NR. Infant Formula. Am Fam Physician. 2009 Apr 1;79(7):565-570
- May be indicated for GERD or frequent regurgitation associated with intense irritability, feeding disorders, or FTT.
 - ▶ Policy 235.40
- Work with prescribing authority to determine if re-introduction of Similac Advance is appropriate when solid foods are introduced (6 months).
 - ▶ Policy 235.55

Similac for Spit Up with GERD Meds

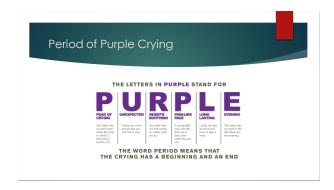
- ▶ Prethickened formula is pH dependent and the viscosity increases when mixed with gastric acid in the stomach.
- ▶ The next slide depicts an increase in the viscosity of a prethickened formula as pH decreases. The effect on viscosity of the prethickened formula contrasts with effects on regular (unthickened) infant formula and formula to which rice cereal was added.
- ▶ Ranitidine (Zantac) is a **gastric acid secretion inhibitor**
- Omeprazole (Prilosec) belongs to group of drugs called proton pump inhibitors. It decreases the amount of acid produced in the stomach.

Pre-thickened Formulas Change Viscosity With Acidification



Crying/fussy What is common

- ▶ Learning infant's communication takes time
- ▶ Crying is main communication tool for a baby
- ▶ Normal infant fussiness starts at 1-3 weeks of age
- ▶ Fussiness typically peaks at 6-8 weeks and is gone by 3-4 months of age
- ► Commonly happens in the evening or right around feeding
- ▶ May be a sign of needing to burp, pass gas, or have a bowel movement





Crying/fussy Information to offer Formula: SIMILAC ADVANCE Encourage skin to skin Speak softly, play calming music or sing Repetition to soothe (gentle rocking, swaying) Wropping baby snugly in a blanket Gentle massages, strokes Acknowledge parent's feelings

Noting Techniques HOLD YOUR BABY! In those parents who were asked to increase their carrying and holding, their babies cried and fussed less than the babies of parents who just did the usual amount of carrying." Period of Purple Crying website Increase the comfart, carry, walk and talk responses." Baby wearing Discuss afer sling use Local Baby-Wearing group

	oothing Techniques Im Period of Purple Cryling Website
•	Position
	 Changing positions (usually picking up and putting on your shoulder)
•	Repeating
	 Repeating anything comforting (sounds, sights, touches, or smells)
•	Rhythms
	 Repeating in a pattern (song, sight, or tough)
	White Noise (running water, fan, dishwasher, bubbles in fish tank)
•	Closeness (skin to skin, snuggling)
•	Sensations- involve many sensations (sounds, sights, touches & smells)
	▶ If it includes sounds, sights, & touch it will likely be more effective than just touch

	O Tips to Soothe a Crying Infant ational Center on Shaken Baby Syndrome
1	dilonal Certier on straken baby syndrome
1.	
	Carride
3.	Gently rock
4.	Vacuum
5.	Sing
6.	Bath
7.	Breastfeed
8.	Pacifier
9.	Skin to skin
	. Eye contact

Crying/fussy: Handouts • Bringing Home Baby

- ► Understanding Your Baby's Cues
- ▶ Why Do Babies Cry?
- ► Healthy Sleep: For You and Your Baby
- ► Crying: Common Infant Problems (Texas WIC)

Crying/Colic Colic defined as crying more than 3 hours per day, more than 3 days per week, for more than 3 weeks Colic is cormon Cause is not known Usually begins during the first 2-6 weeks of life Common at the end of the day Usually stops by 3-4 months of age Studies have shown that formula changes do not make a difference

Crying, Colic Questions to Ask Crying- how long does crying last? Colming- what colming techniques have been tried? Gas- is the infant gassy? Splitting up? Cues- is the infant stiffening legs, pulling up legs in pain, clenching fists? Infants with colic are at risk for being overfed because parents often follow episodes of infant crying with feeding attempts

Crying/Colic Information to offer

- ► Formula: SIMILAC ADVANCE
- "Parental counseling is more effective than changing formula in the treatment of infant colic"
 - O'Conner, NR. Infant Formula. Am Fam Physician. 2009 Apr 1;79(7):565-570
- Listening to an infant crying for long periods of time can be stressful; acknowledge feelings of caregiver
- Encourage retainings or categorial
 Encourage patience and asking for support from family/friends to provide breaks for caregiver
 Follow steps for fussy infant
- ► Hold infant on left side/stomach
- - ► Common Infant Problems: Colic (Texas WIC)

Constipation Questions to Ask

- ▶ Stooling patterns
- ▶ Formula preparation
- Anything added to bottle?
- What else is baby eating/drinking?
- ► Swaddling is infant being wrapped and unable to move?
- ► Activity- how much activity/movement is baby getting?
- ► Recent illness?
- ▶ Medications?

Constipation What is common/normal

- ▶ What is normal with stools
 - ▶ Occurs frequently in the first month and slows down by 8 weeks of age
 - ▶ Stools pass easily even after a few days of no BM
 - "Most parents are concerned that the pained, red-faced look their baby gets while pooping means straining and constipation. That's usually not the case" WebMD
- ▶ Constipation is defined as hard, dry stools that are difficult to pass
- ▶ Related signs: upset, swollen or hard stomach, fussiness, raw or bleeding



WebMD: http://www.webmd.com/parenting/baby/features/fruth-about-baby-poop?page=2

Constipation Common Causes Not enough fluids Changing from breastmilk to infant formula Changing to a new formula too quickly Adding sold floods too early Mixing formula incorrectly Lack of movement or activity Side effects of certain meds

Constipation Information to offer		
•	Formula: SIMILAC ADVANCE	
•	Stools change color during the first weeks of life	
١	Stooling patterns change quickly in infancy and each infant can have a different stooling pattern	
•	Change in color of stool is normal during infancy	
•	Depending on the age of the infant, 1-2 oz of water may be offered	
•	Increase movement/activity for infant	
	▶ Bicycle legs, tummy time	
•	Handouts	
	▶ Does my baby have constipation?	
	Common Infant Problems: Constipation (TX WIC)	

Diarrhea defined as 3+ watery stoots in one day or if stoots become more frequent or watery than usual Important to treat cause of diarrhea, to prevent dehydration

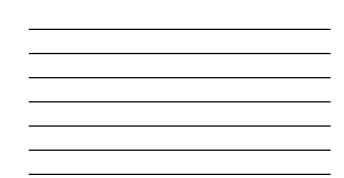
Diarrhea Questions to Ask > Stooling patterns > Formula prep How are bottles, water prepared? How long is formula kept at room temperature? What happens to lethoractromula? > Sanitation: How often are hands washed (especially before bottles & after diaper changes)? How often are longs washed? How often are longs washed? What other foods/fluids from others are being shared? What other fluids are being provided?

Diarrhea Information to offer

- ▶ Underlying cause of diarrhea needs to be identified
- ► Continue with breastfeeding or formula feeding to keep hydrated
- ▶ Follow correct mixing instructions
- ▶ Do not over dilute the formula
- ▶ Juice, sports drinks, & soft drinks can make the problem worse
- ► Handout:
 - ► Common Infant Problems: Diarrhea (Texas WIC)

Diarrhea Which Formula to offer

- ▶ Similac Advance if infant is otherwise healthy
- ▶ I£ infant had inadequate weight gain or prolonged diarrhea
 - ▶ Offer lactose free formula (Soy or Similac Sensitive) until recovery from diarrhea is complete (typically 1-2 weeks)
 - ▶ Reintroduce with Similac Advance within 4-6 weeks



Diarrhea Which Formula to Offer (continued)

- According to the AAP, "In developed countries, even in the case of acute gastroenteritis, enough lactose digestion and absorption are preserved so that low-lactose and lactose-free formulas have no clinical advantages when compared with standard lactose containing formulas except in severely undemourished childrem... Although lactose-free cow milk-based formulas are readily available and popular, no studies have documented that these formulas have any clinical impact on infant outcome measures including colic, growth, or development."
 - ▶ The Science: Lactose Intolerance in Infants, Children, and Adolescents. Heyman, M. for the Committee on Nutrition, Pediatrics. 2006;118;1279-1286

Diarrhea: When to Refer

- ▶ Contact health care provider immediately if:
 - ▶ Infant seems cold, without energy, limp, or will not wake up
 - ▶ Dry, sunken eyes, mouth or tongue, or cries without tears
 - ▶ Blood, mucus, or pus in the diaper or stool or black stools after 4 days of age
 - Vomiting
 - ▶ Fever

Lactose intolerance

- ▶ Primary lactose intolerance
 - ▶ In infancy produce adequate lactase (to digest breastmilk), but lactase production decreases over time
 - ▶ Uncommon before 2-3 years of age in all populations
- ▶ Secondary lactose intolerance
 - Occurs when small intestine decreases lactase production after an illness, injury, or surgery involving small intestine
 - ► Temporary. Lactase levels restored after underlying issue resolved.
 - ▶ Most common type in infancy

Lactose intolerance (continued)

- ► Congenital lactase deficiency

 - ▶ Will be evident within the first feedings
- ▶ Developmental lactose intolerance
 - ▶ Premature infants may have lactose intolerance due to insufficient lactase level
 - ▶ Lactase production begins after at least 34 weeks gestation

Lactose Overload

- ▶ Functional lactase insufficiency
- ▶ Baby receiving more lactose than body is capable of digesting
- ▶ Associated with large, frequent feeds
- ▶ Appears hungry; seeks to feed in an attempt to relieve discomfort
- ▶ Need to make appropriate changes to feeding management
- ▶ Sucking reflux: once triggered, baby will suck regardless if hungry or not. Because a reflux is involuntary, automatic response- baby <u>cannot not suck</u>
- Lactose is a disaccharide: too large to be absorbed so its broken down into glucose & galactose by lactose. Babies have limited ability to produce lactase within a particular time period. [Too much, too fast = excessive amounts of lactose]

Lactose Overload

- Lactose important: aids in absorption of calcium & phosphorus, supports growth of good bacteria which is a major player in prevention of disease & inhibits growth of harmful microorganisms
- Galactose is vital to brain and nerve tissues. Baby's only source during time of rapid brain growth & development
- Glucose essential for energy, growth and cell development. Without it, baby will use body fat for energy and lose wf.
- Gastro-colic reflux: causes contractions of intestinal wall to push contents along its making room for new food. [why newborns poop or pass gas during feedings and grund of times]

 If body is fed before the lactose from the previous feed is fully digested, the gastro-colic reflux may push some of the undigested lactose from the previous feed from the small intestine to the large intestine.

Lactose Overload

- So if milk travels too quickly for all the lactose to be digested, large amount of undigested lactose (sugar) draws extra water through the intestinal wall and the bacteria that is present will ferment producing as which leads to bloating, cramps, waterly/sloppy stook, and gas.
- So, lactose overload and lactose intolerance due to fermentation of undigested lactose. In lactose overload; it's the excess, beyond what is normal that boby has trouble digesting. In lactose intolerance; baby is unable to digest normal amounts of lactose.
- How to Help: Respond to baby's cues, if baby is eating quickly[under 10 minutes] slow down the feeds, appropriate amount of formula for age, others?

Food Allergy

- ▶ Eczema, runny nose, respiratory symptoms (asthma, wheezing), hives, anaphylaxis
- ▶ Most infants with IgE reactions can tolerate soy formula
- ▶ Enteropathy (intestinal disease) or enterocolitis (inflammation of intestine/colon)
- ▶ Vomiting, diarrhea, FTT, colitis with GI bleeding, colic
- ▶ Small bowel damage often occurs, allowing absorption of intact proteins such as soy
- ▶ Protein hydrolysate or amino acid formulas are indicated

Protein Altered Formulas Amino Acids (Elecare, Neocate) Significant malabsorption Cow's milk protein allergy Soy protein allergy Conditions with significant malabsorption Casein hydrolysate (Alimentum, Nutramigen) malaosoppion Gastrointestinal problems related to protein digestion and absorption such as: Immature gut Gastroenteritis Following Gl surgery Constipation

Protein Sources		
Formula	Whey:Casein Ratio	
Human milk	90:10 early milk 60:40 mature milk 50:50 late lactation	
Cow's milk	20:80	
Similac Advance	48:52	
Similac Sensitive	18:82	
Similac for Spit Up	18:82	
Total Comfort	100% whey partially hydrolyzed	
Gerber Good Start Soy	Soy protein partially hydrolyzed	
	100% casein extensively hydrolyzed	

Re-introducing Similac Advance

- "The majority of healthy full-term infants tolerate cow's milk based formulas without problems. Infants requiring a switch to cow's milk based lactose free formulas or soy-based formulas usually can return to a lactosecontaining formula within a month without problems."
 - ▶ Policy 235.55

Re-introducing Similac Advance Similac Sensitive & Total Comfort Work with prescribing authority to re-introduce Advance within 4-6 weeks If prescribing authority determines re-introduction is not appropriate, medical documentation must be completed After another 4-5 weeks again work with prescribing authority to re-introduce Advance Similac for Spit Up Work with prescribing authority to re-introduce Advance when sold foods are introduced (6 months) If prescribing authority to re-introduction is not appropriate, medical documentation must be completed

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